Issue #R-1/2-1987 ---TS Bulletin Newsletters ------ 4 pages

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I had always wanted to start a newsletter, so when the issues of the local user group newsletter started getting few and further and further between and my contributions to them held up in appearing, that was it. In January 1987, as a temporary measure intended to last a few issues, the following announcement came out, heading up the first newsletter of what came to be titled, the TS Bulletin, (sometime later).

TIMEX-SINCLAIR Program Bulletin -Ottawa Support Unit Bulletin#1-1987

This bulletin has been prepared as a medium to convey information of interest to users of Timex-Sinclair Computers. It will include a review of current programming work by the author, Bill Harmer, and a survey of the prospects and potential applications of the Timex-Sinclair line of computers with particular attention to the programs for the ZX-81/TS1000 and a survey of programs for the TS2068/Spectrum ROM-switch machines.

As this is written in 1992, with the TS Bulletin still being issued, it was decided to put together a few 'retro-issues', made up of material from some of those early issues, and leaving out chiefly the material covering news on club meetings, defunct suppliers or suppliers that no longer carry the products that the newsletter mentioned. This issue, #R-½-87 takes all the not-too-dated material from the first two issues, and puts them into a more convenient, photo-reduced form (since the original newsletters were 8½x11 inch). At this stage the newsletters were just photocopied in small quantities of about one-dozen copies per issue and handed out to those interested in them attending the Ottawa-Hull Timex-Sinclair User Group meeting for that month. Later they were exchanged with other, out-of-town groups, separately or in combination with the 'real' club newsletter, as a part of a program of initiating contacts with other clubs out-of-town that the writer had taken charge of, for the club.

Anything said in the newsletters about programs does not imply that they are still available or even ever, fully debugged. But they were news of the time and many demonstrated at club meetings of the day, if in not-fully-working form (it was discovered in one case, while the demo was in progress). Ah, what carefree days of amateurism compared to the atmosphere of the hobby today! Also note that the local user group closed February, 1991.

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RRIF Payment Tables (Canadian Income Tax Applicable Only - 1986)

«similar to IRA = USA

Previously the only thing that one could do with an RRSP (Registered Retirement Savings Plan) when you were ready to retire was to convert it into a pension (annuity). Now however the RRIF (Registered Retirement Income Fund) plan is also available and offers some advantages both in increased flexibility of investment of funds and also tax advantages to some people.

The writer has prepared a program to help you plan for your retirement by calculating RRIF payment schedules. This will help you see how much money you need in your RRIF/RRSP for a given annual income as well as how to predict the effect of inflation or early increased payments.

This program is available for the ZX-81/TS1000 and should also soon be available for the TS2068 through Mr. Dave Solly. * Improved versions offering calculation in the event of early retirement are also in the planning stage. Along with the interest calculation program this represents a broadening of the base of programs available for the ZX-81/TS1000 in the financial field.

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* or might have been, when Mr. Solly was librarian of the local club, now closed down.

EDUCATIONAL PROGRAMS

Several educational programs are available for the ZX-81/TS1000. These include programs for learning French or German as well as locally written programs which will allow you to set up a vocabulary for any language you wish to learn and have the computer test you on it.

One program available from the writer is a program called Ohm's Law Tutorial which allows you to set up simple problems in Ohm's law and solve them with the computer checking the answer and showing you the solution when you get the answer wrong.

Ohm's Law is the fundamental law of electronics and a familiarity with it should be the goal of every student who does not wish to be a 'technopeasant'.

TV Adjust, a program demonstrated at the December meeting of the Ottawa-Hull User Group should be in the library shortly and even improved from the version demonstrated. It allows one to produce a dot, grid or line pattern on your television or monitor screen in order to adjust it. This is the way it is being done increasingly by television technicians, for by using a low-cost computer to generate the patterns, it is unnecessary to buy a special pattern generator which may cost $400.

ZX-Desktop is a program for the ZX-81/TS1000 intended to provide an ultra-simple version of a multi-use program for personal computers. It has a calculator function, and adding machine function, a simple word processor for use with the ZX-Printer and a simple data base. In order to shoehorn all this into 16K of memory, the programs are of necessity very simple. A larger, 32K version and a TS2068 version may be produced if the original version is well enough received. This program should be available in at least an early version in time for showing at the February meeting of the Ottawa-Hull User Group. Again it is designed for the non-programmer who wishes to have something useful but more flexible than single-use programs to run on his computer. That does not exclude however the uses to which a more technically inclined user might put it in using it as a starting point for additions, extensions and modifications of their own which might suit their tastes or applications better.

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ELECTRONIC CIRCUIT DESIGN AND CALCULATION

The computer is a natural as a tool to make the calculations required as to current and voltage etc. in designing electronic circuits. The author has by now a good library of programs relating to electronic circuit design, some of which have been released to the public.

One, available through the Ottawa User Group, (ZX-81/TS1000 version) and shortly to be published as a program listing in the User Group Newsletter, will use the classic op amp driven series pass transistor voltage regulator circuit as its base and will design a voltage regulator using this circuit for a wide variety of fixed output voltages, the current delivery capacity depending on the pass transistor (NPN) used. The author has furthermore actually built the circuit in question for 5 volt output and TO-92 pass transistor and physically tested the parameters involved. Any common op amp like the 741 can be used.

Calculations of series and parallel resistor and capacitor combinations and their equivalent value are also made easy by the program Electronics I available in ZX-81/TS1000 version (although a TS2068 version exists). This program also includes a module for calculating the reactance of a coil in ohms and the reactance of a capacitor in ohms (at a given frequency of sinusoidal wave) as well as a module to convert from decibel to times (amplification). All the sort of functions of a super-electronics calculator that one might wish to have can thus be added to your ZX-81/TS1000. If there is enough demand the User Group may also make available the TS2068 version of this program.

Programs in the planning stage but not yet completed include a program to design a 723 voltage regulator using external pass transistor and other voltage regulator programs. A shunt voltage regulator program using the 741 op amp is also planned in addition to the zener diode driven one already in existence.

For sentimental reasons the author has also produced a program to allow one to design a vacuum tube amplifier (one-tube) along with its related power supply (tube or semiconductor diode) and this program is also available for the TS1000/ZX-81. A long, self-documented program, this is practical for the experimenter as well as those wishing to get a better grasp on the heritage of electronics in vacuum tube technology which up to the late 1950's meant virtually all electronics. This program is available from the User Group as well as the author.

Another program called Decibel, incorporates the module in the above-mentioned Electronics I program to handle decibel conversions as well as neper and decibels per octave conversions. A decibel conversion only program is also available from the author for the Radio Shack MC-10 micro-color computer.

All in all a large variety of programs in the electronics field are available either through the Ottawa User Group library or through the author, an electronic technician by training. They range from the simple Voltage Divider for the most casual of experimenters to the relatively sophisticated analysis of a two stage direct coupled amplifier. If you are interested in electronics experimentation, some of these programs should be added to your library.

In spite of the alleged limitations of the ZX-81, its features are quite adequate for this sort of electronic design and calculation work and these programs as well as other commercially available electronics programs will bring the hobbyist and experimenter up-to-date in their techniques for analysing and originating new electronic devices.

RUN GENERATOR - AT LAST A PROGRAMMING TOOL FOR THE NON-PROGRAMMER

While the ZX-81/TS1000 computers appeal with all their simplicity primarily to the home programmer or computer programming learner a surprising number of users of computers do not wish to perform programming or find it too difficult to learn without formal instruction. Perhaps many if not most of the programmers of home computers have taken a formal course in the subject at one time or other to get them started. The writer's first course was taken in 1967 at Algonquin College and included machine, assembly language and FORTRAN programming on a ¼ million dollar computer of the time (the IBM 1620) which was probably not as powerful as out ZX-81/TS1000 but in approximately the same class performance-wise.

Well, now, the writer has produced a program for those who wish to use their ZX-81/TS1000 and perhaps in the future TS2068, to prepare the sort of data listings once referred to simply as "computer runs", and which used to be a staple of the old computer sections in government and business in the 1960's and which are still used today. And furthermore these runs can be prepared without any knowledge of BASIC programming, simply by inserting a prepared and published formula into the program when it asks for it. And of course your own formulas can be used if you take the time to prepare them for uses not covered by the published formulas. And of course formulas can be swapped by users of the program.

What kind of runs can be produced? Well, log tables and other mathematical tables can be prepared, interest schedules, depreciation schedules, tables of predicted effect of inflation, and many other types of tables can be prepared and displayed on the screen or printed out with the ZX-printer including runs that occupy many pages. At the moment the programmer has supplied a few formulas in the documentation but the potential number of applications is bound to swell as more people use the program and contribute new formulas. Any of the functions in ZX-81 BASIC can be used in the formulas -logarithmic, trigonometric, exponential and even random numbers, and metric conversion factors, rounded numbers and different number systems can be used.

How does the program work? The program is menu driven to start with, and then the program itself asks the user to supply particulars relating to the run such as how many pages it is to go to and what title is to be printed at the top of the page. The program itself takes care of the technical details and produces a clean, nicely formatted print-out or screen display.

Why wasn't this thought of before? In fact a very high level language called RPG (Report Program Generator) attempted to fulfill needs in large computer installations and was based on a similar principle although of course the programming itself was difficult enough to require trained professionals. By breaking down some of the programming requirements of a computer user into simple types of programs, the author of Run Generator-Math hopes to have a series of Run Generator programs to tackle a variety of computer tasks, all useable by people who need not understand programming or people who understand programming but who do not wish to invest the time and effort to write separate programs to do specific jobs when one ready-made program will do the job, time and again.

When will this program be available? At the moment Version 1, a bare-bones but working and tested version is available. Shortly a more sophisticated version 2 will be available and subsequently if the program concept is well received, other versions as well as other formulas for the first version will be published.

CASSETTE DECKS FOR SINCLAIR COMPUTERS

Buying a cassette deck to use with your ZX-81/TS1000 or TS2068 can present unexpected difficulties due to the fact that not all cassette recorders will work with our computers. One reason is that the recorder must have both a MIC and EXT. SPEAKER jack. Usually AUX. or MONITOR jacks won't substitute for them although sometimes the EXT. SPEAKER jack is called instead EARPHONE. Not all cassette decks have these. The writer has found for example a cheap CANDLE which lacked the MIC jack and a PANASONIC which lacked the EXT. SPEAKER jack. So it can't be taken for granted that all machines have them. Make sure to ask to see the machine out of the package before buying it and if there are any doubts read the instruction manual carefully where it refers to the use of the jacks provided.